AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (currently amended) A method for seamless migration from static to agile optical networking at a network switching node in an optical transport network, the network switching node having an input and an output, comprising:

providing an optical signal splitter at the input of the network switching node, the signal splitter adapted to receive an optical multiplexed signal having a plurality of data signals and at least one data signal being agile;

providing an optical signal combiner at the output of the network switching node; splitting the optical multiplexed signal into a first and a second partitioned multiplexed signal;

routing the first partitioned multiplexed signal to an optical add/drop multiplexer, the multiplexer operable to selectively add and selectively drop at least one of the optical data signals embodied in the first partitioned multiplexed signal

routing the second partitioned multiplexed signal to a photonic cross-connect switch, the photonic cross-connect switch operable to switch the agile data signals;

providing an optical signal combiner at the output of the network switching node, the optical signal combiner adapted to receive the first partitioned

multiplexed signal from the optical add/drop multiplexer and the second partitioned multiplexed signal from the photonic cross-connect switch and operable to combine the first and second partitioned multiplexed signal ~~and~~

~~introducing a photonic cross-connect switch between the signal splitter and the signal combiner, where the photonic switch is operable to switch the agile data signals~~.

2. (cancel)

3. (original) The method of Claim 1 further comprises passing only the agile data signals to the photonic switch, thereby improving isolation in the switching node.

4. (currently amended) The method of Claim 1 ~~2~~ further comprises blocking the plurality of data signals received at the photonic switch and subsequently enabling the agile data signals to traverse the photonic switch.

5. (original) The method of Claim 4 wherein the step of enabling the agile data signals further comprises suppressing data signals other than the agile data signals within the photonic switch, thereby improving isolation in the switching node.

6. (original) The method of Claim 1 further comprises providing a second signal splitter at a second input of the network switching node, and adapting the

photonic switch to receive a second optical multiplexed signal from the second signal splitter.

7. (original) The method of Claim 1 further comprises providing a second signal combiner at a second output of the network switching node and adapting the signal combiner to receive a third optical multiplexed signal from the photonic switch.

8. (original) An agile switching node in an optical transport network, comprising;

a first optical transport line operable to carry an optical multiplexed signal therein, where the optical multiplexed signal having a plurality of data signals and at least one of the data signals being agile;

an optical signal splitter connected to the first optical transport line and operable to split the optical multiplexed signal into a first partitioned multiplexed signal and a second partitioned multiplexed signal;

an optical add/drop multiplexer adapted to receive the first partitioned multiplexed signal from the optical signal splitter and operable to selectively add and selectively drop at least one of the optical data signals embodied in the first partitioned multiplexed signal;

a photonic switch adapted to receive the second partitioned multiplexed signal from the optical signal splitter and operable to switch the agile data signals; and

an optical signal combiner adapted to receive the first partitioned multiplexed signal from the optical add/drop site and the second partitioned multiplexed signal from

the photonic switch, and to combine the first partitioned multiplexed signal with the second partitioned multiplexed signal.

9. (original) The agile switching node of Claim 8 further comprises a second optical transport line operable to carry a second optical multiplexed signal therein, the second optical multiplexed signal having a plurality of data signals and at least one of the data signals being agile; and a second optical signal splitter connected to the second optical transport line and operable to split the second optical multiplexed signal into a third partitioned multiplexed signal and a fourth partitioned multiplexed signal.

10. (original) The agile switching node of Claim 9 wherein the photonic switch is adapted to receive the third partitioned multiplexed signal and operable to switch the agile data signals.

11. (original) The agile switching node of Claim 9 wherein the optical add/drop multiplexer is adapted to receive the fourth partitioned multiplexed signal.

12. (original) The agile switching node of Claim 8 further comprising a second optical signal combiner adapted to receive a third partitioned multiplexed signal from the photonic switch and launch the third partitioned multiplexed signal into a third optical transport line.

13. (original) The agile switching node of Claim 8 further comprising a filter interposed between the signal splitter and the photonic switch, the filter operable to pass only the agile data signals to the photonic switch, thereby improving isolation in the switching node.

14. (original) The agile switching node of Claim 8 wherein the photonic switch is further equipped with variable optical attenuators to suppress data signals, other than the agile data signals, in the second partitioned multiplexed signal, thereby improving isolation in the switching node.

15. (original) The agile switching node of Claim 8 wherein the optical add/drop multiplexer further comprises:

a demultiplexer adapted to receive the first partitioned multiplexed signal and separate the first partitioned multiplexed signal into a plurality of data signals;

a multiplexer adapted to receive the plurality of data signals and combine the plurality of data signals to form an outgoing multiplexed signal; and

a plurality of variable optical attenuators interposed between the demultiplexer and the multiplexer and collectively operable to selectively block one or more of the plurality of data signals from traversing through the optical add/drop multiplexer.

16. (original) The agile switching node of Claim 8 wherein the optical add/drop multiplexer further comprises:

a demultiplexer adapted to receive the first partitioned multiplexed signal and separate the first partitioned multiplexed signal into a plurality of data signals;

a multiplexer adapted to receive the plurality of data signals and combine the plurality of data signals to form an outgoing multiplexed signal; and

a plurality of switches interposed between the demultiplexer and the multiplexer and collectively operable to selectively block one or more of the plurality of data signals from traversing through the optical add/drop multiplexer.

17. (cancel)

18. (original) An agile switching node in an optical transport network, comprising;

a first optical transport line operable to carry an optical multiplexed signal therein, where the optical multiplexed signal having a plurality of data signals and at least one of the data signals being agile;

a first optical switch having two input ports and two output ports, the first optical switch adapted to receive the optical multiplexed signal from the optical transport line and operable to route the optical multiplexed signal amongst the two output ports;

an optical signal splitter connected to one output port of the first optical switch and operable to split the optical multiplexed signal into a first partitioned multiplexed

signal and a second partitioned multiplexed signal, where the first partitioned multiplexed signal is routed to an input port of the first optical switch;

an optical add/drop multiplexer adapted to receive the first partitioned multiplexed signal from the first optical switch and operable to selectively add and selectively drop at least one of the data signals embodied in the first partitioned multiplexed signal;

a photonic switch adapted to receive the second partitioned multiplexed signal from the optical signal splitter and operable to switch the agile data signals;

a second optical switch having two input ports and two output ports, the second optical switch adapted to receive the first partitioned multiplexed signal from the optical add/drop multiplexer and operable to route the first partitioned multiplexed signal amongst the two output ports; and

an optical signal combiner adapted to receive the first partitioned multiplexed signal from the second optical switch and the second partitioned multiplexed signal from the photonic switch, and to combine the first partitioned multiplexed signal with the second partitioned multiplexed signal to form an outgoing optical multiplexed signal, where the outgoing multiplexed signal is routed to an input port of the second optical switch.

19. (original) The agile switching node of Claim 18 wherein the optical add/drop multiplexer further comprises:

a demultiplexer adapted to receive the first partitioned multiplexed signal and separate the first partitioned multiplexed signal into a plurality of data signals;

a multiplexer adapted to receive the plurality of data signals and combine the plurality of optical data signals to form an outgoing multiplexed signal; and

a plurality of switches interposed between the demultiplexer and the multiplexer and collectively operable to selectively block one or more of the plurality of data signals from traversing through the optical add/drop multiplexer.